

Date: Monday, 12/01/2009 2:38:16 PM
 User: Julie Dawson

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : STUD
 Job Number : 44686
 Estimate Number : 13229
 P.O. Number :
 This Issue : 12/01/2009 S.O. No. :
 Prsht Rev. : NC Part Number : D36887
 First Issue : / / , Type : MACHINED PARTS Drawing Number : D3688 REV B
 Previous Run : 37837 Drawing Revision : B
 Written By : Due Date : 23/02/2009 Qty: 6 Um: Each
 Checked & Approved By : 370 09.01.13
 Comment : Rev:A New Issue 08-01-29 JLM Verified By:EC
 Est Rev:B Material Change 09-01-07 JLM Verified By:EC

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 M174PHH900R1000 17-4PH SS ROUND BAR 1.00 COND.900



Comment: Qty.: 1.1414 f(s)/Unit Total : 6.8481 f(s)
 17-4PH SS ROUND BAR 1.00 ***CONDITION H900****
 BATCH: M110540

SA 09/01/23

(2)

9m 09/01/22

(6)

2.0 BAND SAW BAND SAW



Comment: BAND SAW
 Cut blank 9.724" long

SA 09/01/23

(2)

9m 09/01/22

(6)

3.0 DOOSAN LATHE DOOSAN LATHE



Comment: DOOSAN LATHE
 1-Turn as per Folio FA729 Rev: N/A & Dwg D3688 Rev: B

(P10) 7

2-Deburr per dwg D3688

SA 09/01/23

(6)

4.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

SA 09/01/23

(6)

5.0 LATHE CONV. CONVENTIONAL LATHE



Comment: CONVENTIONAL LATHE
 Face to finished length as per dwg D3688 AND center drill as per Dwg D3688

SA 09/01/23

(6)

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3688-7 PAR #: J/A Fault Category: _____ NCR: Yes ☒ No ☐ DQA: NA Date: 09.01.29
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR: <u>44686</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
09.01.23	2	Qty (2) blanks cut on shop SW. Over heating discolored metal, 3/8" around ends R.C Program developed	CP 09.01.23 per NS1642	- SCRAP BLANKS. B2 M110540 - GIVE TO ENG FOR USE IN TEST RIG W/D 00272.	SA 09/01/23	S 09/01/23	CP 09.01.23 per NS1642	S 09/01/23
09/01/24	7	(X1) Scrap + replace piece. threading vibrate uncontrollably. center drill rest of pieces deeper. corrected problem.	AMP 09/01/24	- Re-do step 5. Center drill not deep enough. B2 M110540	AMP 09/01/24	S 09/01/24	AMP 09/01/24	S 09/01/24
		R.C Program developed						

NOTE: Date & initial all entries

Date: Monday, 12/01/2009 2:38:16 PM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STUD

Job Number: 44686

Part Number: D36887

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

09/01/23 (6)
SD 09/01/23 (6)

7.0

DOOSAN LATHE

DOOSAN LATHE



Comment: Doosan Lathe

1- Turn as per Folio FA718 Rev: n/a & Dwg D3688 Rev: n/a

2-Deburr per dwg D3688

09/01/24

8.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

09/01/24 (6)

9.0

QC8

SECOND CHECK



Comment: SECOND CHECK

09.01.26 (6)

10.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O: 3084

LPI Per ASTM 1417 LEVEL 2

Certificate of conformaty is required

JUD 09.01.28 (6)

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure certificate of conformity is attached

09/01/28 (6)

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

09/01/28 (6)

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 12/01/2009 2:38:16 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STUD

Job Number: 44686

Part Number: D36887

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

PU 9/1/28 (6)

14.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/01/29 JF

Job Completion



MF 09-01-28

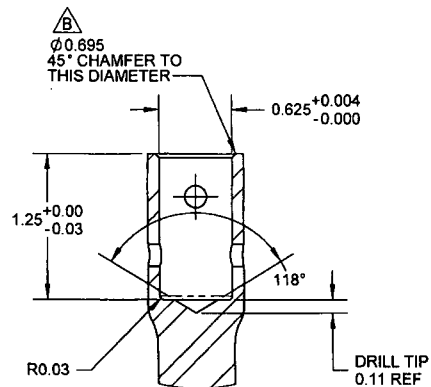
W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

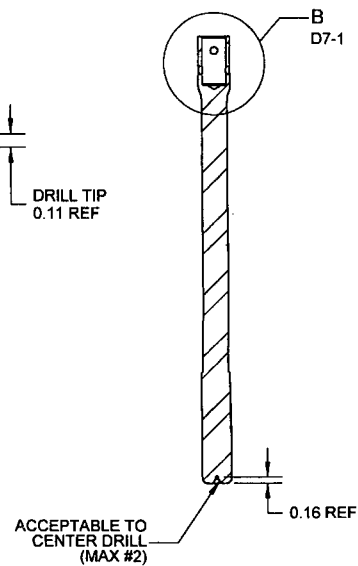
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

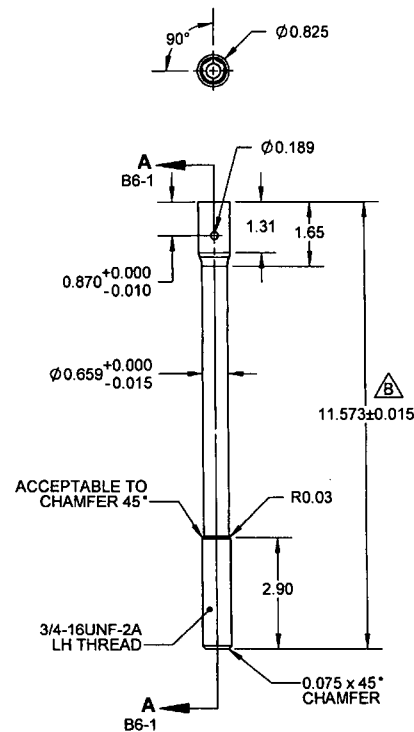
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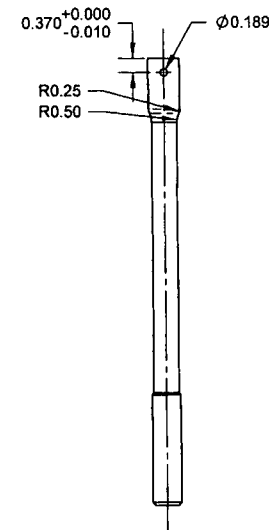
DETAIL B
SCALE 3X
D6-1



SECTION A-A
D4-1



D3688-1 STUD



RELEASED
08/12/15

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 1.24 lb
 - 8) PLP PER ASTM 1417 LEVEL 2

B	CHANGE TO 17-4PH H-900 (ZN A8-1, A8-2, A8-3, A4-4); REDUCE LENGTH ON D3688-1 FROM 12.073 TO 11.573 (ZN C3-1) BASED ON PROTOTYPE INSTALL: Ø0.695 WAS Ø0.665 (ZN D8-1, D8-2, D8-3); Ø0.508 WAS Ø0.478 (ZN D8- 4); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.05.22
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	RF		
CHECKED	90		
MFG. APPR.	91		
APPROVED	92		
DE APPR.	93		
DATE	08.11.24		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D3688** REV. B
SHEET 1 OF 4
TITLE **STUD** SCALE NTS

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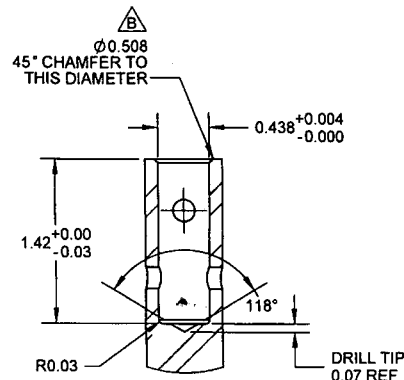
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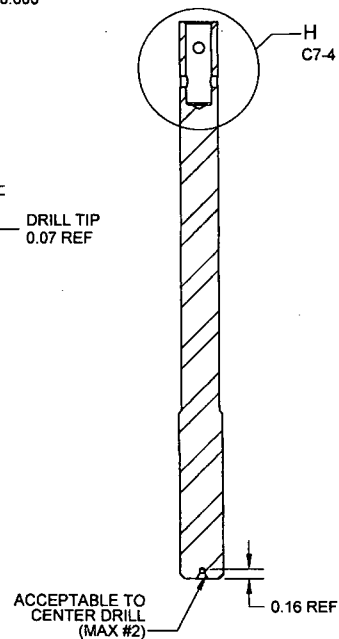
TITLE STUD

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| DRAWN | RF | | SHEET 3 OF 4 |
| CHECKED | <i>di</i> | | |
| MFG. APPR. | <i>di</i> | | |
| APPROVED | <i>di</i> | | SCALE |
| DE APPR. | <i>di</i> | | NTS |
| DATE | 08.11.24 | | |

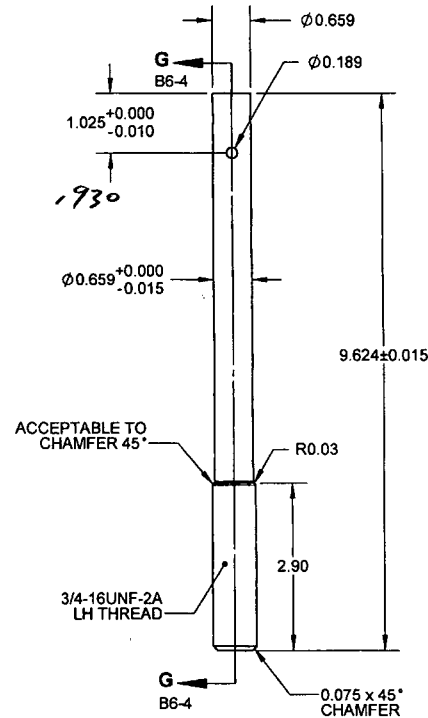
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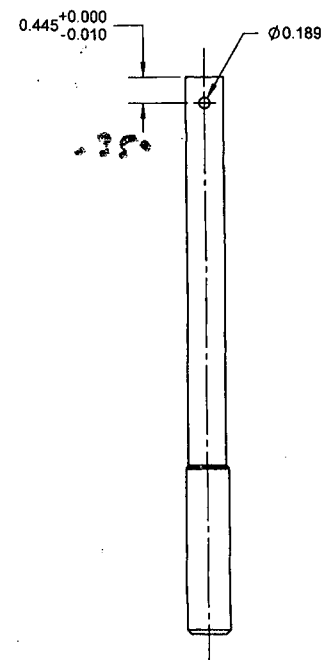
DETAIL H
SCALE 2X
D6-4



SECTION G-G
D4-4



D3688-7 STUD



RELEASED
08/12/15

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.97 lb
 - 8) LPI PER ASTM 1417 LEVEL 2

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D3688	SHEET 4 OF 4
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	STUD	NTS
DATE	08.11.24	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
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NO 14684
UNCONTROLLED COPY
SUBJECT TO INVENT
MENT
WITHIN NOTE

DART AEROSPACE LTD		Work Order: 44686
Description: stud		Part Number: 36887
Inspection Dwg: D3688 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.508 x	+/- .010	.500				
45°	+/- 1/2°	45°				
.438	+ .004 - 0.0	.441				
1.42	+0.0 - .03	1.410				
118°	+/- 1/2	118°				
R.03	+/- .030	R.03				
.0710	+/- .030	.07				
90°	+/- 1/2°	90°				
.659	+/- .010	.659				
.189	+ .005 - .001	.190				
1.025	+0.0 - .010	1.020				
.659	+0.0 - .015	.659				
9.624	+/- .015	9.624				
R.03	+/- .030	R.03				
2.90	+/- .030	2.90				
.075 x	+/- .010	.075				
45°	+/- 1/2°	45°				
3/4-16LH	2A	2A				
.445	+0.0 - .010	.440				
.189	+ .005 - .001	.190				

Measured by: [Signature]	Audited by: [Signature]	Prototype Approval:	N/A
Date: 09/01/24	Date: 09-01-2024	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	



LIQUID PENETRANT TEST REPORT

P- 14931

PAGE 1 OF 1

CLIENT DART AEROSPACE DATE JAN 28 2009 TIME AM ☒ PM ☐
ATTENTION LINDA ACUREN JOB NO. 188-09-001282
ADDRESS 1270 ABERDEEN ST PO/VO NO. 180845
HAWKES BURY, ONT. K6A-1K7 WORK LOCATION MAIN SHOP - HAWKESBURY
ACCEPTANCE STD. ASTM 1417 REV./DATE 2007
PROJECT F.P.I. ON MACHINED PARTS AND CROSS TUBES
ITEM(S) EXAMINED 42 MACHINED PIECES.
3 CROSS TUBES 100% EXTERNAL AND ONE CROSS TUBE REEXAMINE

JOB DESCRIPTION PROCEDURE NO. LT-XXXX REV./DATE TECHNIQUE NO. LT-XXXX-XXX REV./DATE
PART NO. MATERIAL MACHINED ALUM THICKNESS
SCOPE WET FLUORESCENT LIQUID PENETRANT INSPECTION
CARRIED OUT ON 100% EXTERNAL.

TEST DETAILS
METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
FAMILY BRAND MAGNAFLUX BLACK LIGHT S/N 8171 ☐ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
PENETRANT 2L G7 MINIMUM DWELL TIME 25 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H2O MINIMUM DRY TIME >10 MIN. OTHER
DEVELOPER SKD 52 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N CAL DUE DATE FEB 09
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE
SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☐ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
SURFACE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☐ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- (<input type="checkbox"/> METRIC <input type="checkbox"/> IMPERIAL)		ACCEPT	REJECT
ITEM	COMMENTS		
1	JB# 44214	✓	
1	45066	✓	
1	44215	✓	
1	44944	✓	
2	45299	✓	
10	44824	✓	
6	44687	✓	
2	45297	✓	
10	44823	✓	
6	44686	✓	
6	44685	✓	

0261126

ALL ITEMS FOUND
ACCEPTABLE FOR JOB# NOTED

Scope of Services
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.
Standard of Care
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES
CLIENT REPRESENTATIVE Michael M... DTR #
TECHNICIAN (SIGNATURE): Mike Johnston REPORT REVIEWED BY:
NAME (PRINT): Mike Johnston NAME INITIALS
CGSB LEVEL II SNT LEVEL II CGSB LEVEL II SNT LEVEL II
CGSB REG. NO. 6066 CGSB REG. NO. 6066

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